February 23, 2011

Procedure to Setup Special Noise Trigger (Changing AND/OR Term 192 Setup)

Ask DAQ shifter to remove CAL, L1CAL and SMT crates from the global run.

On d0tcc3 ONLY, login as d0cal:
cd ~d0cal/l1cal2b/tablib/run

Run the program:
./bin/setup_noise --help
(This list the usage)

./bin/setup_noise
[Option1] [Option2] …. <NUM_TOWER> <ADC_COUNT> <INSTANCE>

NUM_TOWER: Number of towers in trigger
ADC_COUNT: 16+4*THRESHOLD (per Tower in GeV)
(16=8+8, pedestals for EM+HAD and 4 counts/GeV)
Set the ADC count so that AND/OR rate is ~10Hz.
INSTANCE: So that:

Instance	AND/OR	Default Usage
0	190	Calib(Φ)
1	191	Calib(other)
2	192	Noise trig/Scope

For instance, run the program for noise trigger with 20 TTs above 7 Gev:
./bin/setup_noise --enable --verbose 20 44 2

The AND/OR term 192 is where the rates are observed. In order to observe the trigger, on Taker download the Trig Config File:

/commissioning/l1cal/l1cal2b/trial/l1cal2b_noise_wcal_wsmt-1.0.xml

Or the one without the _wsmt (with SMT) suffix.

If you are trying to find which bad precision cell is causing a TT to be noisy, you should now (have a Cal expert) run cal_elec.
NOTE: Make sure that the suppression mode is pedestal subtraction, *not* sign suppressed. When in sign suppressed mode it will also suppress any cells marked as noisy in an offline database and you will not see them in cal_elec.

To go back to regular run, initialize the system with the L1Cal_IIb_GUI. See the Running_L1Cal_IIb_GUI procedure how to run this GUI.